



MAVEN



Introduction

1. Definition?
2. Usage?

1. Maven is an open-source project management tool for java based projects.
 2. It is mainly used as **build tool**. Build tool means those tools that automates the tasks related in building software.
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Maven focuses on

SCM: Source Code Management

1. Builds
 2. Documentation
 3. Dependencies download
 4. Reports
 5. SCMs
 6. Distribution
 7. Releases
 8. Mailing List
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Build tool?

JAR files are used in tasks like:

- Data compression
- Data archiving
- Data decompression
- Archive unpacking

- ❖ Build tool takes care of everything for building process, like:
 1. Generate source code
 2. Compiles source code
 3. Packages compiled code into JAR file.
 4. Generates documentation from source code.
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Project Object Model

XML file is used to describe data. Data stored in XML files is read by computer with the help of custom tags. Tags tells computer what to do with the text.

```
<studentsList>
  <student id="1">
    <firstName>Greg</firstName>
    <lastName>Dean</lastName>
    <certificate>True</certificate>
    <scores>
      <module1>70</module1>
      <module12>80</module12>
      <module3>90</module3>
    </scores>
  </student>
```

Tags

Text

Developer can create their own tag

- ❖ POM is a XML file that has all the information regarding project and configuration details.
- ❖ pom.xml file contains information about the goals, dependencies, build directory, source directory, plugins, etc.
- ❖ Maven reads the pom.xml file, then executes the goal.

Elements of maven pom.xml file

Element	Description
Project	Root element
model version	Specifies modelVersion. It should be set 4.0.0. Sub element of project.
groupid	Specifies id of project group. Sub element of project
artifactid	Sub element of project. Specifies id for artifact.
version	Sub element of project. Specifies version of artifact under given group.

It is something that is used or produced by project

Element	Description
Packaging	Define packaging type like jar,war etc.
name	Defines name of maven project
url	Defines url of the project
dependencies	Define dependencies of the project
dependency	It is used inside dependencies.
scope	Define scope for project. It can be compile, provided, runtime, test and system.